CITY OF SEATTLE

SUSTAINABLE BUILDING ACTION PLAN

Recommendations to Promote
Sustainable Design and Construction Efforts
in the City of Seattle

April 15, 1998

Table of Contents

Executive Summary		1
!.	Introduction	2
II.	Benefits of Sustainable Building & the City's Role	3
III.	Background Current Sustainable Building Activities Seattle's Sustainable Building Action Plan Participants and Process	4
IV.	Vision and Mission Statements	7
V.	Identification of Main Barriers Information Barriers Regulatory and Processes Barriers Incentive Barriers	8
VI.	Overall Recommendations	12
VII.	Specific Recommendations Sustainable Building Primer Sustainable Building Policy Code Review Resource Center Education Incentives Marketing Campaign Awards Evaluation	14
VIII.	Timeline and Costs Summary	27
Appendix Task Force Advisory Group		28

EXECUTIVE SUMMARY

"Sustainable building" is the notion of designing, constructing, and operating buildings and landscapes in a manner that minimizes environmental impacts. It incorporates energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials, and indoor air quality in all phases of a building's life.

Designing and constructing buildings in a more "sustainable" manner not only conserves valuable natural resources, but also provides economic and health benefits to building owners, occupants and the community at large. The City of Seattle has, for several years, provided a variety of conservation programs aimed at the design and construction industry. These include technical assistance, incentives, and educational programs in the areas of energy efficiency, water conservation, pollution prevention, and solid waste management. Initially, these programs were generally offered in a fragmented manner, with each department providing its own set of programs independent of other departments. Although these programs have been successful, and although some integrated programs have recently been offered, much more can still be done to transform the market in order to make sustainable building the standard practice in the city of Seattle.

In May 1997, a Task Force and Advisory Group was formed to develop the *Sustainable Building Action Plan* for the City of Seattle. The Task Force and Advisory Group were composed of representatives from City departments, the private sector and other government agencies that play a role in the building industry. This document is the product of their work and serves as an action plan to promote sustainable design and building on all new construction and major renovation projects that take place in the city.

Although construction activities are not confined to the city of Seattle limits, the package of recommendations in this Action Plan primarily includes policies and programs that the City of Seattle can undertake -- only one recommendation specifically calls for regional cooperation. In addition, this document does not include action items that the private sector could implement. These omissions are deliberate. This short-term project was narrowly defined and charged with developing a set of recommendations that City government could control and implement. Clearly, cooperation with the private sector and other jurisdictions is critical to sustainable building efforts.[1]

This Action Plan is intended to be a policy paper for City decision makers: the Executive, City Council, department heads, and City managers. Some of the recommendations listed entail minimal costs and could proceed without high level authorization, while others require a significant investment by the City and may not be implemented until the next budget cycle. The Task Force and Advisory Group believe that the entire package of recommendations needs to be implemented in order to affect real, large-scale change in the way the building industry conducts business.

[1] In 1998 the City will work with the private sector and other cities to develop a regional sustainable building plan for the Pacific Northwest.

I. INTRODUCTION

The City of Seattle prides itself on being a leader in environmental issues. Over the past several years, the City has received national attention and awards for its progressive energy efficiency, water conservation and recycling programs. The City has also become increasingly aware of the importance of sustainable building efforts in the overall scheme of environmental stewardship.

The building industry is the nation's largest manufacturing activity, representing more than 50 percent of the nation's wealth and 13 percent of the Gross Domestic Product.[2] In addition, buildings account for one-sixth of the world's freshwater withdrawals, one-quarter of its wood harvest, and two-fifths of its material and energy flows. Structures also impact areas beyond their immediate location, affecting watersheds, air quality, and transportation patterns of communities.[3] Given that buildings consume a significant amount of resources during their construction and occupancy, Seattle has a vested interest in ensuring that buildings are designed and constructed in an environmentally responsible manner.

"Sustainability" describes the ability to meet the needs of the present without compromising the ability of future generations to meet their needs. "Sustainable building" (also referred to as "resource-efficient" or "green building") is the notion of designing, constructing, and operating buildings and landscapes in a manner that minimizes environmental impacts. It incorporates energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials, and indoor air quality in all phases of a building's life. Building in a sustainable manner usually means exceeding codes or standard practices. Although meeting the current energy and plumbing codes certainly enables a building to be more resource-efficient than one built 50 years ago, much more can still be done. In some cases, such as solid waste management and irrigation, few if any requirements or minimal performance standards exist.

Sustainable building is an important component within the larger framework of sustainable development. The difference between the two concepts is as follows: sustainable building is more narrowly focused on individual buildings (how a building or landscape is designed and built), whereas sustainable development more broadly addresses issues affecting entire communities, such as land use and transportation.

[2] National Science and Technology Council, Subcommittee on Construction and Buildings, *Preliminary Report* (Washington D.C., 1993).
[3] *Worldwatch Paper 124.*

II. BENEFITS OF SUSTAINABLE BUILDING & THE CITY'S ROLE

As noted earlier, buildings use a tremendous amount of resources during their construction and their occupancy. Designing and constructing buildings in a sustainable manner reduces energy and water use, reduces solid and hazardous waste, prevents indoor and outdoor pollution, and uses materials more efficiently. In turn, energy, water, and material efficiency can save the building owner and/or tenant money by reducing utility bills. Furthermore, resource conservation reduces the need for new power plants, water supplies, and landfills, thus benefiting the City of Seattle and its residents.

Numerous case studies also indicate that sustainably designed buildings can result in human health benefits. Daylighting, reduction of toxic products, and other resource-efficient measures have been shown to increase worker productivity, reduce sick leave and provide a more comfortable working and living environment. Financially, these benefits are usually far greater than the savings from utility bills.

City of Seattle departments offer a variety of conservation programs to the building industry and have done so for several years. For example, some programs offer financial incentives to offset the higher equipment costs of energy and water conserving technologies. The rationale is that the City will receive a high rate of return on its investment through reduced water and energy use during the life of the building.

The recommendations outlined in this document augment the activities already implemented by City departments. They only include policies and programs that the City of Seattle could undertake to facilitate sustainable building. That is not to say that City government is solely responsible for promoting these efforts. Clearly, the private sector, other government agencies, and individuals also play a key role in getting sustainable building into the mainstream; and partnerships between the City and these groups are vital. However, the purpose of this Action Plan is to only identify those items that the City of Seattle can control and implement. The City's role is to move the market in a direction that benefits the environment, building industry and the community. The recommendations outlined in the following pages attempt to raise aware-ness about sustainable building and its benefits; provide the industry with the information, tools and incentives to put sustainable building concepts into practice; recognize and reward successful projects; and lead the effort by example. Once sustainable building is more widely accepted and practiced, the City can begin to step aside and allow market forces to continue on their own.

Many of the recommendations in this Action Plan require a financial investment from the City of Seattle. As with the existing City conservation programs, the City of Seattle should see a return on its investment, via water, energy and waste reduction, within an acceptable time frame.[4] In addition to reducing costs to City government, these practices will have a positive impact on the community as a whole, as described above. Consequently, it is in the interest of the entire city to invest in sustainable building.

[4] A cost-benefit analysis has not been calculated for these recommendations. However, this would be the first step in developing a new City program.

III. BACKGROUND

CURRENT SUSTAINABLE BUILDING ACTIVITIES

The City of Seattle currently offers a number of conservation programs to the design, construction and landscaping industry. The following are just a few of many such examples:

- City Light's *Built Smart Program* and *Energy Smart Design Program - Built Smart* provides incentives and services on new multi-family buildings that build to higher standards than the current Energy Codes, and also provides solid waste and water conservation consultations. The *Energy Smart Program* provides incentives and technical assistance on commercial and industrial projects.

- Seattle Public Utility's (SPU) *Water Smart Program* - Provides commercial customers with technical assistance and financial incentives to install water conservation technologies.

- The Business and Industry Recycling Venture's (BIRV) *Waste Management Technical Assistance Program* - Under a contract with Seattle Public Utilities, the BIRV provides technical assistance to the building industry on ways to reduce, reuse and recycle construction materials and to use resource-efficient products.

- Environmental Management Initiative (EMI) - EMI is developing an Energy and Water Conservation Policy which would require new City facilities and landscapes to be designed, constructed and operated to be state-of-the-art water and energy efficient.

The City of Seattle is also involved in a number of regional efforts to promote resource conservation in the building industry. City departments collaborate with various regional organizations, including the Northwest Energy Efficiency Alliance, the Water Conservation Coalition, and the Construction, Demolition and Landclearing Council. Recently, the City received a grant from the Urban Consortium Energy Task Force to develop a regional action plan to promote sustainable building in the Pacific Northwest.

In addition to City activities, the private sector has also initiated a variety of sustainable building programs. For example, there is a growing field of consultants and architects who specialize in sustainable design, and a few construction companies that have full-time staff whose expertise is sustainable construction. Today, many large construction and demolition companies recycle their construction debris on a regular basis. And trade organizations, such as Associated General Contractors and the American Institute of Architects, offer workshops on sustainability.

Beyond the City of Seattle limits, sustainable building activities are prevalent in many other jurisdictions. Perhaps the most widely recognized program is the City of Austin's *Green Builder Program* which provides sustainable building guidelines for residential and commercial buildings. In Santa Barbara, developers can have their building permits expedited if they include resource-efficient measures on their projects. The US Green Building Council, a national non-profit organization, has

developed a sustainable building certification program for commercial and institutional projects. These large-scale efforts reinforce the idea that sustainable building is important on both a local and national level.

In general, most City conservation programs that are targeted at the construction industry are focused on a specific issue. For example, City Light's Energy Smart Program is primarily aimed at energy efficiency in commercial buildings and SPU's Water Smart Program is geared mainly towards water conservation in commercial buildings. A few recent programs take a more integrated approach, and include more than one conservation issue. For example, City Light's Built Smart Program incorporates energy efficiency, water conservation, and solid waste management requirements. And the *Best Management Practices Handbook for Resource-Efficient Schools,* developed by SPU and City Light, provides guidelines for half-a-dozen resource-efficiency issues.

In addition to recognizing the value of integrating the efforts of City utilities, it has also become clear that the utilities need to work with other City departments to promote sustainable building efforts. The Department of Construction and Land Use, the Department of Housing and Human Services, and many other departments are also key stakeholders in sustainable building. It is also critical that the City work more closely with the private sector and other government agencies, both locally and regionally, on these issues. In essence, cooperation is the key element in successfully promoting sustainable building activities.

SEATTLE'S SUSTAINABLE BUILDING ACTION PLAN

Despite the City of Seattle's successful programs, and despite the recent trend to provide more integrated conservation programs to the building industry, sustainable building is not yet *the* standard building practice in the city. This is true for City-funded, other government, and private sector construction projects that take place within the city limits. In general, most construction projects in Seattle utilize traditional building practices. That is, most projects simply strive to meet the energy and other building codes. Although Seattle has stringent energy and plumbing codes, additional measures can be taken to conserve more resources on a project. And some sustainability issues, such as irrigation and waste reduction, lack any performance standards or requirements.

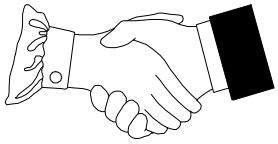
There are a number of reasons why sustainable building is not yet the standard practice. Higher first costs, perceived risks, lack of information about the latest available technology and lack of information about City incentive programs are only a few of the barriers to sustainable building. Developers, architects, contractors and other key players face a variety of challenges in implementing sustainable building practices. Recognizing this, the City embarked upon an ambitious initiative – development of a *Sustainable Building Action Plan* for the City of Seattle. The goals of this Plan are to: **(1) Identify the main barriers to sustainable building within the City of Seattle; and (2) To identify a set of recommended strategies that the City can undertake to overcome these barriers.** If implemented, the strategies outlined in the Plan should do much to further the efforts of sustainable building on a large scale in the City.

PARTICIPANTS AND PROCESS

In May 1997, a Task Force and Advisory Group was formed to develop the *Sustainable Building Action Plan* for the City of Seattle. The Task Force and Advisory Group were composed of representatives from City departments, the private sector and other government agencies that play a role in the building industry. Included were representatives from City Light, Construction and Land Use, the Planning Commission, Housing and Human Services, architectural firms, construction companies, development companies, and engineering firms. A complete list of the Task Force and Advisory Group members can be found in the appendix.

Over a period of 7 months, the Task Force met regularly to develop the contents of the Action Plan. In addition, there were several joint Task Force-Advisory Group meetings, and Advisory Group members were invited to participate in Task Force meetings. At these meetings, the group developed a vision statement for sustainable building and mission statement for this project; identified the main barriers to sustainable building on all types of construction projects in Seattle; identified some solutions to overcome the barriers; and developed an implementation plan for the priority solutions.

The body of this document contains the conclusions and recommendations that came out of the Task Force and Advisory Group meetings. In addition to the Task Force and Advisory Group, the document was also reviewed by a larger group of City staff and industry representatives.



IV. VISION AND MISSION STATEMENTS

The Task Force and Advisory Group first developed a vision statement and mission statement. The vision statement describes the long-term vision for sustainable building in the City of Seattle, while the mission statement defines the objectives for this project -- the *Sustainable Building Action Plan.*

VISION STATEMENT

To enable building and landscape design and construction to join the highest positive regard for our quality of life with the least ecological consequences to our natural environment for current and future generations.

MISSION STATEMENT

To identify the barriers and incentives for private and public sector sustainable design and construction; to prioritize and recommend policies and programs for the City of Seattle in response to these; and to provide the ideas and strategies that can guide the City's implementation.